18-35 | BRITAIN B 11,894

41. ORNAMENTATION,
Surface type,
Relief & intaglio.

A.D. 1897. May 13. N° 11,894.

HULBERT'S Complete Specification. (1 SHEET)

Fig. 1.

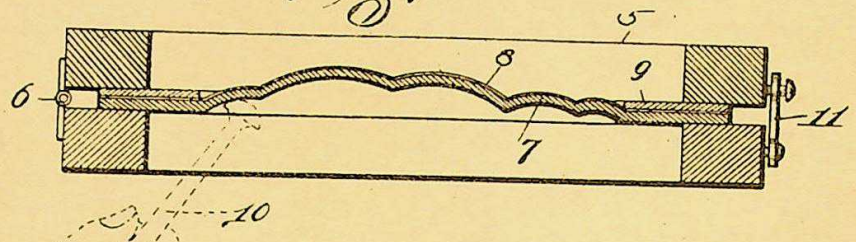


Fig. 2.

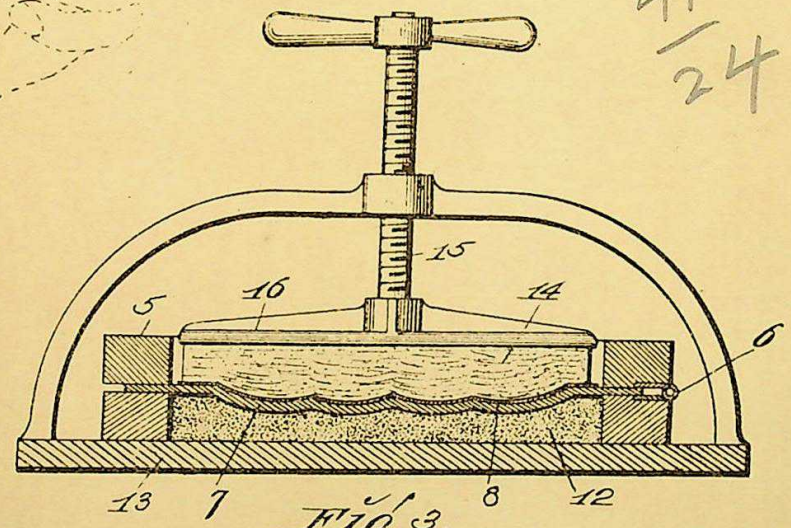
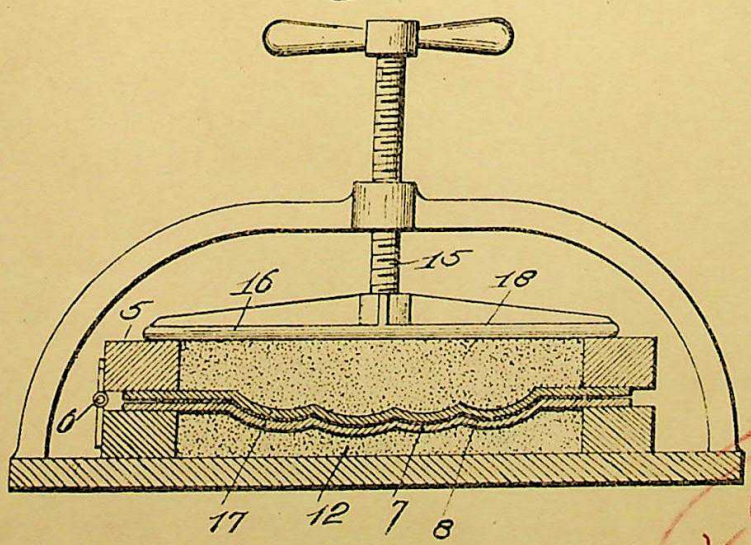


Fig. 3.



[This Drawing is a reproduction of the Original on a reduced scale]

Malby & Sons, Photo-Litho.

BRITAIN B
UNITED STATES PATENT NO. 615025
11,894
41. FINE ARTS, Pictures
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N° 11,894 A.D. 1897

Date of Application, 13th May, 1897—Accepted, 3rd July, 1897.

COMPLETE SPECIFICATION.

DUPLICATE

Improvements in the Art of Embossing.

I, DURAN FERNANDO HULBERT, Photographer, residing at No. 4418 Washington Boulevard, in the City of St. Louis, State of Missouri, U.S.A., do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention relates to improvements in the art of embossing and consists of the novel methods or processes hereinafter illustrated, described and claimed, and of the metal construction, combination and arrangement of parts, hereinafter shown, described and claimed.

Figure 1 is a vertical sectional view through the embossing frame, the malleable metallic plate, the photographic print pasted upon the plate and the open mask and illustrating the use of the embossing tool. Fig. 2 is a vertical sectional view through an ordinary letter-press, together with a single embossing form or die, the frame or chase, a single pattern, a photographic print and the flexible elastic tympan, all arranged as required in carrying out the principles of my invention. Fig. 3 is a vertical sectional view through an ordinary letter press, together with the male and female embossing forms or dies, the frame or chase, the male and female pattern and the photographic print, all arranged as required to carry out the principles of my invention.

Referring to Fig. 1, 5 is the chase or frame which is an open rectangular frame constructed in two mating parts, said parts being secured together by the hinges 6; 7 is the metallic plate, 8 the photographic print pasted upon the plate, 9 the open mask, and 10 the embossing tool.

The malleable metallic plate 7 is a sheet of lead or an alloy of lead and tin, or a sheet of any similar malleable metallic substance, cut to the desired size and shape, and I paste the photographic print 8 upon said malleable metallic plate, or I sensitize said malleable metallic plate and photograph a picture thereon, or I print a picture on said malleable plate from a printing form, or I draw or paint a picture or design upon said malleable metallic plate.

I paste a copy of the picture or print upon a sheet of card-board, and then cut out from said sheet of card-board the portions corresponding to the portions which I desire to emboss upon the picture, thus producing the open mask 9, which I place upon the picture in position to have the openings in said mask register with the portions of the picture which I desire to emboss. The plate 7 carrying the picture and the mask 9 are then placed in the frame 5 and secured in position by drawing two sides of the frame firmly together and securing them together with the hooks 11. The operator then takes the embossing tool 11 and places it against the opposite side of the malleable metal plate 7 from the print or picture and by the operation of said embossing tool, presses the desired portions of said plate and said print or picture upwardly into the openings in the mask 9, and thus produces the desired embossing. By using a malleable metallic plate, such as lead, or an alloy of lead and tin, or a plate of other similar malleable metallic substance, the plate and print will readily stretch under the influence of the embossing tool to

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form the desired relief. After the embossing is completed, as desired, the frame and mask are removed from the plate and the indentations on the back of the plate may be filled with a suitable plastic material, such as plumber's cement, which will harden when cold or dry, and thus stiffen the plate and prevent the embossing from flattening, or being otherwise mutilated.

When it is desired to produce a number or accurate copies of the embossed picture, I remove the mask 9 from the frame and leave the plate 7 in the frame. Then the operation is as illustrated in Fig 2. The plate 7 now becomes a pattern, and I fill the space within the frame and above the pattern with plaster of paris, or other suitable plastic material which will harden when cold or dry, and thus I make the embossing form or die 12. After the die or form has became sufficiently hardened, the pattern may or may not be removed from the form. I then turn the frame bottom upwards and place it upon the bed 13 of the press. I then take copies of the picture or design which I used in making the pattern 7 and place said copies one at a time upon the pattern 7, registering with the picture or design upon said pattern and place the flexible elastic tympan 14 upon said copy and operate the screw 15 to depress the platen 16 and press the flexible elastic tympan firmly against the copy, thus forcing the copy firmly against the pattern and embossing the copy. After the copies have been embossed, the depressions upon the backs of the copies may be filled with any suitable plastic material which will harden when cold or dry, or said copies may be stiffened by applying coats of shellac, or in any suitable way, as desired.

I have described and illustrated my invention in connection with the very simplest form of mechanism for producing embossed copies of pictures or designs. The frame 5 may be removed from the form 12 and said form may be locked in a chase and placed upon a printing press. The flexible elastic tympan 14 may be placed upon the platen or cylinder of the printing press and the photographic prints may be fed to the press and embossed in the usual way of feeding a printing press, or the prints may be pressed into the depressions of the form with the fingers, or with a suitable tool by the hands, or in any suitable manner.

When it is desired to make a large number of copies of a picture, the form 12 may be used as a pattern for making stereotype or electrotype plates, or dies, either male or female, or both, and said electrotype or stereotype plates or dies may be used in the ordinary way.

When the prints to be embossed are stiff, or it is desired to emboss sharp, fine lines which require more pressure than can be applied to the elastic tympan, the operation is as shown in Fig. 3. The pattern 7 now becomes a female pattern and the form or die 12 becomes a female die. I now open the frame and place a second malleable metal plate upon the pattern 7 and depress portions of said second plate into the indentations of the pattern 7, thus forming the male pattern 17, which exactly matches the female pattern 7. I then fill the space above the pattern 17 and within the frame with plaster of paris, or other suitable plastic material which will harden when cold or dry, and thus I make the male embossing form or die 18. The patterns 7 and 17 may, or may not, be removed. I prefer not to remove them, as they form a substantial face for the forms or dies, making the dies resemble electrotype plates. I then open the frame on its hinges, place a copy of the picture or design which I used in making the pattern 7 in position above the form 12, then close the frame thus bringing the copy between the forms; then I place the frame upon the bed of the press and depress the platen, thus pressing the forms tightly together and embossing the copy. The copies to be embossed may be made or pasted upon sheets of stiff paper or card-board, or upon the malleable metal plate before being embossed, or they may be pasted upon a suitable mount after having been embossed.

The frame 5 may be removed from the forms 12 and 18, and said forms may be locked in chases and placed upon an embossing press and operated in the usual way, said forms being in effect embossing dies, which embossing dies may be used in the ordinary way of embossing.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1.

The herein described method of producing embossed photographs, which consists of pasting the photographic print to a malleable metallic mount, such as lead, and embossing the mount and print with a tool held in the hand, substantially as specified.

2.

The herein described method of producing embossed photographs, which consists of pasting the photographic print to a malleable metallic mount, such as lead, and embossing the mount and print and filling the depressions upon the back of said malleable metallic mount with a plastic material which will harden when cold or dry, substantially as specified.

3.

As a new article of manufacture, an embossed photograph consisting of a malleable metallic mount, such as lead, a photographic print pasted to said malleable metallic mount, portions of said malleable metallic mount and of said photographic print being embossed by the use of a tool held in the hand, substantially as specified.

4.

As a new article of manufacture, an embossed photograph consisting of a malleable metallic mount, such as lead, a photographic print pasted to said malleable metallic mount, portions of said malleable metallic mount and of said photographic print being embossed by the use of a tool held in the hand, and a filling of plastic material which will harden when cold or dry cast in position in the indentations upon the back of said malleable metallic mount, substantially as specified.

5.

The improvement in the art of embossing, which consists of taking a malleable metal plate having a picture or design upon one of its sides, embossing said picture with embossing tools and thus producing a pattern, placing plastic material against one side of said pattern and allowing said material to harden, thus producing a form, placing the copy to be embossed against the face of said form and pressing said copy into the depressions of said form by means of a flexible elastic tympan, substantially as specified.

6.

The improvement in the art of embossing, which consists of taking a malleable metal plate having a picture or design upon one of its sides, embossing said picture with embossing tools and thus producing a pattern, placing plastic material against one side of said pattern and allowing said material to harden thus producing a form, and using said form as a pattern for producing metallic embossing dies or plates, substantially as specified.

7.

An embossing die or form, consisting of a malleable metal plate having a picture or design upon one of its sides and said plate being embossed to form a pattern, said pattern being outlined and indicated by said picture, and a mass of plastic material placed against one side of said plate and allowed to harden. substantially as specified.

8.

The improvement in the art of embossing, which consists of taking a malleable metal plate having a picture or design upon one of its sides and embossing said picture with embossing tools and thus producing a pattern, substantially as specified.

9.

The improvement in the art of embossing, which consists of taking a malleable metal plate having a picture or design upon one of its sides, embossing said picture

or design with embossing tools and thus producing a pattern, placing plastic material against one side of said pattern and allowing said material to harden thus producing a form or die, placing a second malleable metal plate against the first plate and pressing said plate firmly into the indentations of the first plate thus producing a second pattern, placing plastic material against one side of said second pattern and allowing said material to harden thus producing a second form or die, placing the copy to be embossed between said forms or dies and pressing said forms firmly together, substantially as specified.

10.

The improvement in the art of embossing, which consists of taking a malleable metal plate having a picture or design upon one of its sides and embossing said picture or design with embossing tools and thus producing a pattern, pressing a second malleable metal plate against said pattern thus producing a second pattern, placing a copy of the picture or design to be embossed between said patterns and pressing said patterns firmly together, substantially as specified.

11.

A set of embossing dies or forms, one of said embossing forms or dies consisting of a malleable metal plate having a picture or design upon one of its sides and said plate being embossed to form a pattern, said pattern being outlined or indicated by said picture or design, and a mass of plastic material placed against one side of said plate and allowed to harden, and the other one of said embossing dies or forms consisting of a malleable metal plate pressed firmly against the first mentioned malleable metal plate and a mass of plastic material placed against the opposite side of said second plate and allowed to harden, substantially as specified.

Dated the 30th day of April, 1897.

HIGDON, LONGAN & HIGDON,
Agents for Applicant.

Redhill: Printed for Her Majesty's Stationery Office, by Malcomson & Co., Ltd.—1897.